

Cell-mediated enzyme prodrug cancer therapies.

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Public Summary:

Cell-directed gene therapy is a promising new frontier for the field of targeted cancer therapies. Here we discuss the current pre-clinical and clinical use of cell-mediated enzyme prodrug therapy (EPT) directed against solid tumors and avenues for further development. We also discuss some of the challenges encountered upon translating these therapies to clinical trials. Upon sufficient development, cell-mediated enzyme prodrug therapy has the potential to maximize the distribution of therapeutic enzymes within the tumor environment, localizing conversion of prodrug to active drug at the tumor sites thereby decreasing off-target toxicities. New combinatorial possibilities are also promising. For example, when combined with viral gene-delivery vehicles, this may result in new hybrid vehicles that attain heretofore unmatched levels of therapeutic gene expression within the tumor.

Scientific Abstract:

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